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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/541,081

03/21/2006

Takashi Kikuchi

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HOGAN & HARTSON L.L.P.
1999 AVENUE OF THE STARS
SUITE 1400
LOS ANGELES, CA 90067

EXAMINER

ZIRKER, DANIEL R

ART UNIT

PAPER NUMBER

1771

MAIL DATE

DELIVERY MODE

08/06/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/541,081	Applicant(s) KIKUCHI ET AL.	
	Examiner Daniel Zirker	Art Unit 1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/29/05</u> . | 6) <input type="checkbox"/> Other: ____. |

1. The Examiner notes that in claims 8 and 19 it would be desirable to change “using” to some other method related step in order to make the respective claims more precise as to the exact nature of the method step performed by the aforementioned apparatus.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 1 014 766 A2 combined with EP 0 335 337. EP -766 discloses or renders obvious (note particularly the Abstract, Fig. 1, Paragraphs 0002, 0003, 0009, 0015, 0026, 0031, 0041, 0042) the basic structures of the claimed three layer bonding sheet (claim 1) and four layer metal foil coated bonding laminate (claim 7), wherein the bonding sheet can be comprised of a multilayer laminate polyimide sheet containing outer polyimide layers 2a and 2c sandwiching the apparent most heat resistant (lowest k value) heat resistant polyimide core resin layer 2b, with the reference lacking an express teaching of the thermoplastic and thermoplastic-non thermoplastic nature of polyimide layers 2a and 2c, respectively. The reference also discloses [0031] the fact that a heat resistant resin (i.e. non thermoplastic) other than polysulfone may be added to any of the various polyimide layers, including either of the two polyimide layers 2a and 2c, presumably in an effort to influence such parameters as the thermal expansion properties of the layer. EP '337,

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however, discloses (note particularly the Abstract, page 2, lines 32-35, lines 47-49, page 3, lines 5-15, page 4, lines 24-34, page 5, lines 51-56, page 6, lines 26-47, page 7, lines 10-15) a closely related genus of embodiments wherein it is taught that the polyimide resins having high or low thermal expansion include those which applicants' specification teaches (page 8, lines 15-22, page 9, lines 11+) may be either thermoplastic or non thermoplastic, respectively (page 3, lines 9-11; page 4, lines 25-34), depending upon the type of thermal properties desired, and may also be blended with other polyimide resins in an effort to produce the desired thermal properties (page 6, lines 41-43). Accordingly, one of ordinary skill, desirous of improving the bonding properties (to metal foils) and the resultant curling properties of the adhered to metal foil layers of one of the outer polyimide resin compositions would so modify this adhesive layer by making it thermoplastic and also adhesive, while as regards the other non bonding polyimide layer one would select a suitable amount of the heat resistant resins taught in the '766 reference and incorporate this amount into the opposing thermoplastic polyimide layer so as to make the resultant properties of the outer layer non thermoplastic and thus non adhesive, in an effort to form the claimed genus of bonding sheets and metal clad laminates. With respect to the various dependent claims which have not been encompassed by the above analysis /Daniel Zirker/

4. Primary Examiner, Art Unit 1771 such as the range of proportions of the thermoplastic-non thermoplastic resins of claim 2 and the various performance parameters of claims 5,6,10, and 14-17 these are each believed to be, if not expressly

or inherently disclosed, obvious modifications to one of ordinary skill, in the absence of unexpected results.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note also US 2002/008671 A1 to Sakayori, Fraivillig, Lee et al and Chen et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Zirker whose telephone number is 571-272-1486. The examiner can normally be reached on Monday - Thursday from 8:30 to 6:00. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris, can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Daniel Zirker/
Primary Examiner, Art Unit 1771

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